

~~This is a RED Stamp~~

**ROCKY FLATS PLANT
EMD OPERATING
PROCEDURES MANUAL**

Manual No.: 5-21000-OPS-GT
Procedure No.: Table of Contents, Rev 32
Page: 1 of 3
Effective Date: 01/05/93
Organization: Environmental Management

**THIS IS ONE VOLUME OF A SIX VOLUME SET
WHICH INCLUDES:**

VOLUME I: FIELD OPERATIONS (FO)
VOLUME II: GROUNDWATER (GW)
VOLUME III: GEOTECHNICAL (GT)
VOLUME IV: SURFACE WATER (SW)
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| GT.01 | Logging Alluvial and Bedrock Material | 2 | 05/12/92 |
| DCN 92.01 | Specialized Logging Form | 2 | 11/13/92 |
| GT.02 | Drilling and Sampling Using Hollow Stem Auger Techniques | 2 | 05/12/92 |
| DCN 92.01 | Superseded by DCN 92.03 | 2 | 07/27/92 |
| DCN 92.02 | Superseded by DCN 92.03 | 2 | 07/27/92 |
| DCN 92.03 | Addition of the Drum Characterization | 2 | 07/27/92 |
| DCN 92.04 | Prevention of Down Hole Contamination | 2 | 08/26/92 |
| DCN 92.05 | Field Modification | 2 | 12/04/92 |
| GT.03 | Isolating Bedrock from Alluvium with Grouted Surface Casing | 2 | 05/12/92 |
| DCN 92.03 | Expired | 2 | 09/03/92 |
| GT.04 | Rotary Drilling and Rock Coring | 2 | 05/12/92 |

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| GT.05 | Plugging and Abandonment of Boreholes | 2 | 05/12/92 |
| DCN 92.01 | Field Modification | 2 | 12/09/92 |
| GT.06 | Monitoring Wells and Piezometer Installation | 2 | 05/12/92 |
| DCN 92.05 | Schematic Diagram Land Fill Methane Wells | 2 | 06/04/92 |
| DCN 92.06 | Field Modification | 2 | 11/12/92 |
| DCN 92.07 | Provide Consistency | 2 | 12/17/92 |
| *DCN 93.01 | Borehole Advancement | 2 | 01/04/93 |
| GT.07 | Logging and Sampling of Test Pits and Trenches | 2 | 05/12/92 |
| GT.08 | Surface Soil Sampling | 2 | 05/12/92 |
| DCN 92.01 | Clarification of Soil Sampling | 2 | 09/03/92 |
| DCN 92.02 | Consistency Change | 2 | 10/12/92 |
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| GT.09 | Soil Gas Sampling and Field Analysis | 2 | 05/12/92 |
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| DCN 92.03 | Modification to Method of Taking Readings | 2 | 10/15/92 |
| GT.19 | Field Gas Chromatographs | 2 | 05/12/92 |
| GT.20 | Procedures for Soil Interstitial Water Sampling and Sampler Installation | 2 | 05/12/92 |
| GT.21 | Cone Penetrometer Testing | 1 | 05/12/92 |
| GT.24 | Approval Process for Construction Activities on or Near Individual Hazardous Substance Sites (IHSSs) | 0 | 05/12/92 |

**ENVIRONMENTAL MANAGEMENT
DOCUMENT CHANGE NOTICE (DCN)**

Procedure Number 5-51000-OPS-GT.6,Rev2

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| | | | | | |
|------------------|--|-----------------------------|---|------------|--------------------------------|
| Title | MONITORING WELLS AND PIEZOMETER INSTALLATION | Date | 11/12/92 12/10/92 | DCN Number | 93.01 5-21000-OPS-GT.6,Rev2 |
| Expires | 11/12/92 12/10/93 | Procedure Revision Required | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Scope Limitation | Operable Unit No. 5 | | | | |

| Item Number | Page | Step or Paragraph | Changes (Use DCN CONTINUATION SHEET for Additional Space) |
|-------------|------|-------------------|--|
| 1 | 6 | 1 | Change the second sentence to read: Therefore, after the augers have been advanced to the bedrock contact, an appropriately-sized drive sampler will be driven 2 to 5 feet into the claystone bedrock to provide a pilot hole, no more than 1 inch greater than the outside diameter (O.D.) of the casing, for a 2-foot deep sediment sump and to classify the bedrock lithology below the contact. |
| 2 | 11 | 2 | Add the following to the end of the second paragraph: (up to 3 ft. thick) Before placing the well assembly into the borehole, any void space between the bottom of the borehole and the bottom of the sediment sump will be backfilled with commercially available bentonite pellets. |

Justification (Reason for Change - Provide Numbers To Reference Corresponding Items Above)

The boreholes may be advanced to five feet below the bedrock contact to ensure that there is no sandstone within the top five feet of bedrock.

| Concurrence | Organization | Req | Date | Concurrence | Organization | Req | Date |
|--------------------------------|--------------|---|-----------------------|--------------------|--------------|-----|----------|
| <i>[Signature]</i> | OAPM | X | 11/14/92 | <i>[Signature]</i> | User | X | 11/13/92 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Approval of Responsible Manger | Date | Is Posting Req'd? | If Yes, By What Date? | Date Posted | | | |
| <i>[Signature]</i> | 11/13/92 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | upon receipt | | | | |